

AMENDMENTS TO THE CLAIMS

Claims 1-60 are pending. No claims are amended, canceled, withdrawn, or added.

1. **(Original)** A mobile device, comprising:
a keypad of number keys, the number keys having associated letters;
a language system to receive an input string entered via the keypad that is representative of one or more phonetic characters and generate likely language characters based on the input string;
a display to present the likely language characters for user selection; and
the language system being configured to facilitate input of the input string and selection of a language character without switching modes between input and selection.

2. **(Original)** A mobile device as recited in claim 1, wherein the phonetic characters are Chinese Pinyin and the language characters are Chinese Hanzi.

3. **(Original)** A mobile device as recited in claim 1, wherein the likely language characters are presented on the display in an index that associates selection keys of the keypad with the language characters so that user entry of a selection key results in a selection of a corresponding language character and user entry of a non-selection key results in further input.

1 4. **(Original)** A mobile device as recited in claim 1, wherein the likely
2 language characters are presented on the display in an index that associates
3 selection keys of the keypad with the language characters, the selection keys being
4 selected based on whether the letters associated therewith follow the phonetic
5 characters already entered.

6
7 5. **(Original)** A mobile device as recited in claim 1, wherein the
8 language system includes an association module that automatically presents the
9 language characters as the user depresses individual keys.

10
11 6. **(Original)** A mobile device as recited in claim 1, wherein the
12 language system includes a sentence-based search engine to derive the language
13 characters based on context of the input string within one or more words of a
14 common sentence.

15
16 7. **(Original)** A mobile device as recited in claim 1, wherein the
17 language system includes a language model to statistically derive the language
18 characters.

19
20 8. **(Original)** A mobile device as recited in claim 1, wherein the
21 language system includes a character-based bigram language model and a word-
22 based N-gram language model, where $N > 2$.

23
24 9. **(Original)** A mobile device as recited in claim 1, wherein the
25 language system converts the phonetic characters to the language characters.

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2 10. **(Original)** A mobile device as recited in claim 1, wherein the
3 language system includes a direct key-based search engine that generates the
4 language characters based on a key sequence entered on the keypad in lieu of
5 converting the phonetic characters to the language characters.
6

7 11. **(Previously Amended)** A mobile device as recited in claim 1,
8 wherein the language system includes a surname model to detect surnames in the
9 input string.
10

11 12. **(Original)** A mobile device as recited in claim 1, wherein the
12 language system includes a first name model to detect first names in the input
13 string.
14

15 13. **(Original)** A mobile device as recited in claim 1, wherein the
16 language system comprises:

- 17 a first name model to detect first names in the input string;
18 a surname model to detect surnames in the input string; and
19 a character-based bigram language model.
20

21 14. **(Original)** A mobile device as recited in claim 1, wherein the
22 language system comprises:

- 23 a resident language model residing on the mobile device to statistically
24 derive the language characters using a first statistical language model; and
25

1 a nonresident language model residing on a remote server,
2 communicatively coupled to the mobile device, to statistically derive the language
3 characters using a second statistical language model.
4

5 15. **(Original)** A mobile device as recited in claim 1, further comprising
6 a scroll control key to present other likely language characters.
7

8 16. **(Original)** A mobile device as recited in claim 1, embodied as a
9 mobile phone.
10

11 17. **(Original)** A mobile device, comprising:
12 a keypad of number keys, the number keys having associated letters of an
13 alphabet; and
14 a direct key-based search engine that generates possible language characters
15 that are not part of the alphabet based on a key sequence entered on the keypad.
16

17 18. **(Original)** A mobile device as recited in claim 17, wherein the
18 alphabet is an English alphabet and the language characters are Chinese Hanzi.
19

20 19. **(Original)** A mobile device as recited in claim 17, further
21 comprising an association module that automatically presents the language
22 characters as the user depresses individual keys.
23

24 20. **(Original)** A mobile device as recited in claim 17, embodied as a
25 mobile phone.

1
2 21. **(Original)** A mobile device, comprising:
3 a keypad of number keys, the number keys having associated letters of an
4 alphabet;
5 an association module that associates a key sequence with language
6 characters that are not part of the alphabet; and
7 a display to present the possible language characters as the user depresses
8 individual keys based on the key sequence.
9

10 22. **(Original)** A mobile device as recited in claim 21, wherein the
11 alphabet is an English alphabet and the language characters are Chinese Hanzi.
12

13 23. **(Original)** A mobile device as recited in claim 21, embodied as a
14 mobile phone.
15

16 24. **(Previously Presented)** A mobile device, comprising:
17 a keypad of number keys, the number keys having associated letters of an
18 alphabet;
19 a language system to receive an input string of letters from the alphabet
20 entered via associated number keys of the keypad, where the input string of letters
21 is representative of one or more phonetic characters, and to convert the phonetic
22 characters to language characters that are not part of the alphabet using a statistical
23 language model that utilizes at least one neighboring word in a common sentence;
24 and
25 a display to present the language characters for user selection.

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2 25. **(Original)** A mobile device as recited in claim 24, wherein the
3 alphabet is an English alphabet and the language characters are Chinese Hanzi.

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5 26. **(Original)** A mobile device as recited in claim 24, embodied as a
6 mobile phone.

7
8 27. **(Original)** A system comprising:
9 a resident language model residing on a mobile device to convert phonetic
10 characters input into the mobile device into language characters using a first
11 statistical language model; and
12 a nonresident language model residing on a server remote from the mobile
13 device, the nonresident language model being configured to convert the phonetic
14 characters into the language characters using a second statistical language model.

15
16 28. **(Original)** A system as recited in claim 27, wherein the first
17 statistical language model is a character-based bigram language model and the
18 second statistical language model is a word-based N-gram language model, where
19 $N > 2$.

20
21 29. **(Original)** A method comprising:
22 receiving an input string entered via a keypad;
23 presenting likely language characters based on the input string; and
24 facilitating continued entry of the input string and selection of a suitable
25 language character without switching modes between input and selection.

1
2 30. **(Original)** A method as recited in claim 29, wherein the language
3 characters are Chinese Hanzi.

4
5 31. **(Original)** A method as recited in claim 29, further comprising
6 indexing the likely characters when presented in a manner that associates certain
7 keys of the keypad with the language characters so that user entry of a certain key
8 results in a selection and user entry of a non-certain key results in further input.

9
10 32. **(Original)** A method as recited in claim 29, further comprising:
11 associating key entries with the language characters; and
12 presenting the likely language characters intended by the user as the user
13 depresses individual keys.

14
15 33. **(Original)** A method as recited in claim 29, further comprising
16 deriving the language characters using a context-based statistical language model.

17
18 34. **(Original)** A method as recited in claim 29, further comprising
19 detecting surnames in the input string.

20
21 35. **(Original)** A method as recited in claim 29, further comprising
22 detecting first names in the input string.

1 36. **(Original)** A computer-readable medium storing computer-
2 executable instructions that, when executed on a processor, perform the method as
3 recited in claim 29.

4
5 37. **(Original)** One or more computer-readable media having stored
6 thereon a plurality of instructions that, when executed by one or more processors
7 of a computer, causes the one or more processors to perform acts including:

8 receiving an input string entered via a numeric-based keypad where number
9 keys in the keypad have associated letters in an alphabet, the input string being
10 representative of one or more phonetic characters;

11 converting the input string of phonetic characters to possible language
12 characters that are not part of the alphabet; and

13 presenting the language characters using an index that associates selection
14 keys of the keypad with the language characters, the selection keys being chosen
15 based on whether the letters associated with the selection keys are likely to follow
16 the phonetic characters already entered.

17
18 38. **(Original)** One or more computer-readable media as recited in claim
19 37, wherein the phonetic characters are Chinese Pinyin and the language
20 characters are Chinese Hanzi.

21
22 39. **(Previously Presented)** One or more computer-readable media as
23 recited in claim 37, wherein the plurality of instructions further cause the one or
24 more processors to perform acts including selecting one of the selection keys to
25 select one of the language characters.

1
2 40. **(Original)** One or more computer-readable media as recited in claim
3 37, wherein the plurality of instructions further cause the one or more processors
4 to perform acts including selecting a key that is not a selection key to continue the
5 input string.

6
7 41. **(Original)** One or more computer-readable media as recited in claim
8 37, wherein the plurality of instructions further cause the one or more processors
9 to perform acts including:

10 associating key entries with the language characters; and

11 presenting the likely language characters intended by the user as the user
12 depresses individual keys.

13
14 42. **(Original)** One or more computer-readable media as recited in claim
15 37, wherein the plurality of instructions further cause the one or more processors
16 to perform acts including deriving the language characters using a context-based
17 statistical language model.

18
19 43. **(Original)** One or more computer-readable media as recited in claim
20 37, wherein the plurality of instructions further cause the one or more processors
21 to perform acts including detecting surnames in the input string.

22
23 44. **(Original)** One or more computer-readable media as recited in claim
24 37, wherein the plurality of instructions further cause the one or more processors
25 to perform acts including detecting first names in the input string.

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2 45. **(Original)** A method comprising:
3 facilitating entry of phonetic characters via discrete keys of a keypad; and
4 generating possible language characters intended by the user based on a key
5 sequence entered on the keypad in lieu of converting the phonetic characters to the
6 language characters.

7
8 46. **(Original)** A computer-readable medium storing computer-
9 executable instructions that, when executed on a processor, perform the method as
10 recited in claim 45.

11
12 47. **(Original)** A method comprising:
13 receiving key entries entered via a numeric-based keypad where number
14 keys in the keypad have associated letters;
15 associating strings of key entries with language characters that are different
16 than the letters; and
17 presenting likely language characters intended by the user as the user
18 depresses individual keys.

19
20 48. **(Original)** A computer-readable medium storing computer-
21 executable instructions that, when executed on a processor, perform the method as
22 recited in claim 47.

23
24 49. **(Previously Presented)** A method comprising:
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1 receiving an input string of letters entered via a numeric-based keypad
2 where number keys in the keypad have associated letters, the input string of letters
3 being representative of one or more phonetic characters;

4 converting the input string of letters that represent the phonetic characters
5 to possible language characters based upon a context of at least one word in a
6 sentence within which the input string is a part; and

7 presenting the possible language characters for selection by the user.

8
9 50. **(Original)** A computer-readable medium storing computer-
10 executable instructions that, when executed on a processor, perform the method as
11 recited in claim 49.

12
13 51. **(Original)** A method comprising:
14 receiving an input string entered via a keypad on a mobile device;
15 sending the input string to a remote server;
16 generating likely language characters based on the input string at the remote
17 server; and
18 returning the likely language characters to the mobile device for display.

19
20 52. **(Previously Presented)** A mobile device, comprising:
21 a keypad of number keys, the number keys having associated letters of an
22 alphabet;

23 a language system to receive an input string of letters from the alphabet
24 entered via associated number keys of the keypad, where the input string of letters
25

1 is representative of one or more phonetic characters, and to generate likely
2 language characters based on the input string; and

3 a display to present the likely language characters for user selection.
4

5 53. **(Previously Presented)** A mobile device as recited in claim 52,
6 wherein the likely language characters are presented on the display in an index
7 that associates selection keys of the keypad with the language characters so that
8 user entry of a selection key results in a selection of a corresponding language
9 character and user entry of a non-selection key results in further input.
10

11 54. **(Previously Presented)** A mobile device as recited in claim 52,
12 wherein the likely language characters are presented on the display in an index
13 that associates selection keys of the keypad with the language characters, the
14 selection keys being selected based on whether the letters associated therewith
15 follow the phonetic characters already entered.
16

17 55. **(Previously Presented)** A mobile device as recited in claim 52,
18 wherein the language system includes an association module that automatically
19 presents the language characters as the user depresses individual keys.
20

21 56. **(Previously Presented)** A mobile device as recited in claim 52,
22 wherein the language system includes a sentence-based search engine to derive the
23 language characters based on context of the input string within one or more words
24 of a common sentence.
25

1 57. **(Previously Presented)** A mobile device as recited in claim 52,
2 wherein the language system includes a language model to statistically derive the
3 language characters.

4
5 58. **(Previously Presented)** A mobile device as recited in claim 52,
6 wherein the language system includes a character-based bigram language model
7 and a word-based N-gram language model, where $N > 2$.

8
9 59. **(Previously Presented)** A mobile device as recited in claim 52,
10 wherein the language system includes a direct key-based search engine that
11 generates the language characters based on a key sequence entered on the keypad.

12
13 60. **(Previously Presented)** A mobile device as recited in claim 52,
14 embodied as a mobile phone.